Operations Research Report Series

The Client Perspective: Helping District Teams Measure and Act on Client Satisfaction Data in Niger

An Analysis of Tools and Methods

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Abstract

This paper represents a summary of the QAP Operations Research Project entitled “The client perspective: Helping district teams measure and act on client satisfaction data in Niger.” This study was implemented in two stages, the first taking place in October and November 1997. The second stage took place in April 1998. In both stages, data on clients’ satisfaction with services were collected in three districts in the Tahoua Region of Niger, West Africa with funding by the Quality Assurance Project. The primary objective of the first stage of the study was to test two different data collection tools (focus groups and exit interviews) and three different data collection methods (different types of data collectors). Another study objective was specifically to assess the use of the semi-structured approach for focus group data collection. The two tools and three data collector types were assessed on the basis of validity, feasibility, utility, and cost. Through data analysis and use of a multiple criteria matrix, the research team determined that exit interviews and supervisors from the same district rated highest in terms of validity, cost, feasibility and utility versus other data collection tools and data collector types, respectively. However, important advantages and disadvantages were found for each tool and method. The report provides examples of the data collection instruments as well as an innovative “rapid” feedback package for client satisfaction measurement. It is hoped that this report will help to clarify implementation issues that district-level managers should consider related to the regular measurement and use of client satisfaction data.

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QUALITY ASSURANCE PROJECT

The Client Perspective: Helping District Teams Measure and Act on Client Satisfaction Data

An Analysis of Tools and Methods

> *For us here, everything comes from God. So, if someone is sick and the nurse does everything he can to cure the person, the lack of healing comes from God, since the nurse put all of his knowledge into practice. The rest, it is God who does it.* Man, 38 years, Niger, West Africa

> *Someone who is suffering is less curious, because they are looking only for the cure.* Woman, 43 years, Niger, West Africa

I. Introduction

THIS paper presents key conclusions from the first of two phases of the QAP Operations Research Project on client satisfaction measurement methodologies entitled “The client perspective: Helping district teams measure and act on client satisfaction data in Niger.” The first phase, discussed in this report, was implemented in October and November 1997 in three districts in the Tahoua Region of Niger, West Africa under funding by the Quality Assurance Project (USAID contract no. HRN-5992-C-00-6013-00). The study’s primary objective was to test two different data collection tools (focus groups and exit interviews) and three different data collection methods (different types of data collectors).

The two tools and three methods were assessed on the basis of the following criteria:

- Validity - the degree to which the tools and methods measured what they were supposed to measure
- Feasibility - the degree to which district health management teams were able to collect the data
- Utility - the degree to which the data gathered by the different tools and methods were used, and
- Cost.

In testing these tools and methods, the research team hoped to evaluate several gaps that emerge from the literature on client satisfaction (see Appendix 1). The first of these gaps relates to the data collection tools. For client satisfaction data collection, exit interviews and focus groups have long been seen as the two primary tools for gathering client satisfaction data in health. While there has been considerable discussion of the advantages and disadvantages these tools each have by way of convenience, recall bias and courtesy bias, there is virtually no systematic evaluation of these different types of tools in the literature from the perspective of health systems management in developing countries. This study was designed to address this gap.

Secondly, while focus groups have long been regarded as a valuable tool for collecting client satisfaction information, the logistics of recording, transcribing, coding and analyzing focus groups makes their regular application impractical for health supervisors and management teams in a setting such as Niger. The research team for this study created and tested a semi-structured focus group guide that would simplify this process of data collection, compilation and analysis. This semi-structured tool was different from a traditional focus group guide in that questions were followed by categories that the focus group note taker could use to record clients' responses. The categories were devised through formative research using the same questions, except presented as open-ended questions. Clients' responses were recorded and a frequency count made in order to obtain the most common responses to the questions on the focus group guide. These then became the categories for each question. Below these categories was space for the note takers to add clients' comments. Both the facilitator and the note taker had a copy of the same semi-structured focus group guide.

Finally, in terms of the methods for data collection, there is again little information from the literature on the logistics of collecting client satisfaction data. The literature suggests that staff connected with the health system will be less likely to obtain “honest” answers from clients; however, formative research in Niger indicates that clients would prefer to speak to health personnel who they believe can more directly address their concerns. For a district health manager interested in building better client relations and increasing utilization of the district’s health services, numerous questions arise regarding the feasibility, costs and validity of different methods of data collection. This study was designed to address those questions as well.

We can therefore summarize the primary research objectives as the following:

- To review advantages and disadvantages of different tools and methods for regular client satisfaction data collection from the perspective of developing country health managers
- To test a semi-structured tool for focus groups versus exit interviews on the dimensions of validity, feasibility, utility and cost, and
- To test different data collector types for validity, feasibility, utility and cost.

II. Methods

THE analysis for the study was based on several assessment methods. For the **feasibility** analysis, a questionnaire was distributed to each of the data collectors after the data collection was completed. The questions asked for input relative to how prepared the data collectors were, if they felt they were able to gather the data competently, what were the hardest and easiest aspects of their job, and which of the tools was more feasible to implement. Responses were analyzed according to the semi-structured categories for each question (for structured questions), as well as through a modified content analysis where comments from clients were coded for positive or negative feasibility. These comments were then further analyzed in context in some cases.

Cost was analyzed through a cost analysis of the data collection. The cost analysis was concerned mainly with those costs that varied between the data collection tools and methods. The principal costs analyzed as part of this analysis were labor costs, travel costs, and other miscellaneous supply costs. Labor costs were analyzed at two levels, the first being per diem costs for the data collection teams and the second being time to administer the interview and focus group questionnaires. The rationale behind this dual level of analysis is that this report seeks to present cost information that is relevant to both the study site, where per diem costs are of greatest concern, as well as to the larger international health research community, where time costs are of more interest.

Utility was measured using three methods: a) questionnaires to the different data collection teams, b) key informant interviews with the district health management teams, and c) unstructured content analysis comparing the two tools. The district health management teams are comprised of the district's chief doctor and the senior health staff. It is these individuals who are ultimately responsible for supervision of health workers and maintaining and improving quality in the district. Following the study, rapid feedback was given to each district management team. The purpose of the follow-up semi-structured interviews with the teams was to assess what true impact the research and feedback had on district management and on quality improvement within the district. The responses to these interviews were recorded, transcribed, and then evaluated through content analysis.

Validity was measured through a variety of techniques. In general, when assessing validity, the research team was concerned with how well the data collected measured what it was intended to measure. The literature on client satisfaction generally outlines four types of validity, including face, external, construct and content validity. This project was concerned primarily with *construct validity*, i.e., how well the tools and methods seemed to measure the "construct" of client satisfaction, and *content validity*, i.e., how well the tools and methods captured what was actually said by clients.

Two of the principal methods of assessing validity were: a) correlation analysis within questionnaires, and b) comparing actual questionnaires to taped transcripts of exit interviews and focus groups. In addition, client satisfaction levels were analyzed to look for systematic bias that would compromise external validity. Specific information on the validity of the assessment methods is discussed in Section III.C. below.

The research team used a combination of an Excel database (through a set of linked Excel spreadsheets) and QSR*NUDIST[1] to enter, analyze and store the data from the project. The choice of Excel software, instead of more advanced statistical or database packages, was made expressly to allow for better access to the data on the part of the district teams and to encourage sustainability. Availability and capacity to use more advanced database and statistical packages are extremely limited in Niger. The structure of the data entry forms and simple frequency count graphs within the feedback package were designed to encourage ongoing use of the tools and methods presented in this report.

A. Research Design

THIS study was a prospective, quasi-experimental study comparing three types of data collectors and two data collection tools. Data were collected from health centers in three districts and their client communities in Niger, West Africa over a two-week period in October 1997 and a two-week period in April 1998.

Three districts were chosen at random from within a sampling frame of six districts.[2] One of the three data collector types was then randomly assigned to each of the three districts. In district 1, supervisors from the same district were used as data collectors. In district 2, outside enumerators, in this case a team of literacy volunteers, were used as data collectors. In district 3, supervisors from a neighboring district were used. Within each district, there are eight health centers, and four of these health centers were chosen at random to take part in the study. For each of the health centers chosen, between 20 and 25 exit interviews were conducted to create a total of at least 100 interviews per district. In addition, for each health center, two focus groups were conducted, one of women and one of men. Each focus group had between six and ten participants. In that exit interview clients came from both the clinic village and from the surrounding villages, however, the research team wanted to ensure comparability in the client groups. Therefore, one of the focus groups (randomly selected as to either male or female) was assigned to the clinic village and the other was assigned to a randomly selected village from the clinic's catchment area. The study districts and number of clients seen are summarized in Table 1 below.

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[1] Non-numerical Unstructured Data Indexing Searching and Theorizing is a Windows-based software program designed to aid users in handling non-numerical and unstructured data in qualitative analysis.

[2] Because of government restrictions on work in Niger by U.S. organizations, the Quality Assurance Project is limited to a single region of six districts where it can conduct research.

Table 1

Data Collection by District

District	Data collector type	Exit interviews (n)	No. focus groups (n)
D1-Konni	Same health staff	102	8 (n = 75)
D2-Keita	Outside enumerators	98	8 (n = 74)
D3-Madaoua	Neighboring health staff	101	8 (n = 57)
TOTAL		301	24 (n = 206 participants)

B. Client Profile

EXIT interviews were conducted with 301 clients. A majority of the exit interview respondents were women (219 women versus 82 men). The average age for exit interview interviewees was 25 for female and 32 for male interviewees, respectively. Focus groups were held with 206 participants. The focus group participants were, on average, slightly older, with the average ages for women and men being 27 and 39, respectively. A chi-square analysis showed no significant differences between exit interview and focus group populations on age or between the three districts on gender and age.

III. Results

A. Principal Findings

THE principal findings of the first phase can be summarized in terms of the data collection tools and the data collection methods. The principal measures for the evaluation of these tools and methods were validity, feasibility, utility and cost. Table 2 summarizes some of the major advantages and disadvantages found in each of the data collection tools and each of the data collector methods. The tools and data collector types did not differ significantly on all of the above four criteria, so only major differences are presented. A more detailed discussion of each of the dimensions of validity, feasibility, utility and cost is presented in Section III.C. Specific Findings for Tools and Methods.

Once again, when we refer to the comparison between exit interviews and focus groups, we are comparing the semi-structured focus group tool developed for this research versus a comparable exit interview tool. A more detailed discussion of the research findings relative to the semi-structured focus group guide is presented in the following section.

B. Structured Focus Group Guides

THE use of focus groups in the field in developing countries can be hampered by the time- and resource-intensive nature of focus group data collection, compilation and analysis. This study attempted to make use of a semi-structured focus group guide that would streamline the data collection and analysis process for teams in the field. Examples of both of the data collection tools are presented as Appendices 2 and 3 to this report.

In order for an approach to regularly measuring and acting on client satisfaction data to be adopted in Niger, the district management teams needed an approach that took into account the lack of tape recorders and their own limited time for data collection and analysis. The concept behind the semi-structured nature of the tool was that data collector note takers would be able to better keep up with the conversation in both focus

Table 2

Summary of Key Findings

	Advantages	Disadvantages
Tools		
Exit interviews	**Utility** – Greater depth of information per interviewee versus focus groups; 42% more "key" comments[3] per interviewee than focus groups **Validity** – Significantly more valid (content validity) than focus group tool	**Validity** – Lower "external" validity through self-selection of participants – systematically gives higher levels of satisfaction (89% satisfied versus 55% satisfied for focus groups); evidence of lower "construct" validity
Focus groups	**Cost** – 59% less costly than exit interviews in terms of time-efficiency during data collection	**Feasibility** – Setup and preparation time demand considerably more time than exit interviews
Data collectors		
Supervisors from same district	**Utility** – Districts using data collectors from within the health system were more likely to use results of study for immediate action **Cost** – Least costly method by at least 20%[4]	**Validity** – Significantly lower validity rankings than other two methods
Outside enumerators	**Feasibility** – Significant advantages in that providers are not taken away from work for data collection	
Supervisors from neighboring district	**Validity** – Higher validity than other data collector types **Utility** – Districts using data collectors from within the health system were more likely to use results of study for immediate action	**Cost** – Most expensive of three methods

groups[5] and exit interviews if the most common answers to the questions (derived through pretests) were listed on the questionnaire as preset categories. This structure was also designed to help with the analysis, in that the district management teams could use simple counts of categories to get a quick idea of the answers to their questions, without having to engage in in-depth content analyses.

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[3] "Key" comments are discussed in the section on Utility. In brief, key comments are defined as comments expressing strong opinions or emotions or comments detailing explicit problems or suggestions.

[4] The parameters of the cost analysis were narrowly defined for purposes of the research. See Section III.C.4. for more detail.

[5] The semi-structured format was employed in both the focus group tool and the exit interview tool. In that semi-structured formats are not uncommon for exit interviews, the discussion here is focused on a review of the focus group tool.

Generally speaking, the findings from the study indicated that the semi-structured nature of the questionnaires was a mixed success. In most cases, the addition of structured responses allowed data collectors to record more data and aided in the data analysis. None of the teams cited the structured aspect of the questionnaire as a problem, and reviews of the questionnaires by data collection team supervisors found that the structured sections of the questionnaires were generally being well used. However, in a number of instances, data collectors did not profit from the existence of the structured sections, preferring instead to take down clients' words verbatim and then go back and check in the boxes after the interview. With some questions, such as question #1 – "What was the reason for your visit to the health center today?"– the range of choices was great enough so that many responses did not fit into the predefined categories, despite pretesting of the categories. This negated the advantage of the structured sections in some cases.

The area where the semi-structured focus group tool failed was in its ability to offer useful data to teams. An analysis of the data from both the first and second rounds of data collection[6] reveals that in many instances, the semi-structured focus group tool provided nearly 60% less information (a significant difference at $p > .0001$) than the semi-structured exit interview tool for the same client population, as measured by the number of comments collected on the forms. Here we measure "information" as simply the total number of checked boxes and comments recorded per tool. In addition, a content analysis of "key" comments made by clients where clients expressed strong emotion or described important or life-threatening events showed that the focus group tool resulted in an average of 1.5 key comments per client compared to 2.6 per client for exit interviews. This analysis is detailed further in the discussion of utility and validity in Section III.C. below.

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[6] Where appropriate, this report will draw relevant information from the second round of data collection.

C. Specific Findings for Tools and Methods

1. Validity

THE health services literature and client satisfaction literature contain a significant amount of discussion as to definitions of validity. In general, validity is defined as the degree to which a measure is free from systematic or random variability and measures what it is intended to measure. In epidemiological studies, this validity is measured in terms of sensitivity and specificity (Lilienfeld and Stolley, 1994). There are many sources of error in measurement, and generally health services researchers define this error in two broad categories: intra-observer and inter-observer. This study, in the sense that it was concerned with data collection tool validity and data collector type validity, was concerned with both. The study measured content validity, as well as face, external, and construct validity.

Content Validity

Content validity is, in the authors' opinions, the most important of the four measures of validity. Content validity is defined as that property of a test or measure that, after content analysis on the data collected, seems to meet "all requirements for congruence between claimed and actual content" (Scriven, 1991). In other words, did the tool measure what was intended to be measured? This measure of validity was assessed by comparing actual questionnaires to taped transcripts of exit interviews and focus groups. A sample of 9 exit interviews and 3 focus groups was taped in the field during data collection. A random day during the data collection was selected for each data collection team, and the team was asked to tape three exit interviews and one focus group. These were then transcribed and translated from Hausa to French. The French transcripts were compared with the actual questionnaires to determine content validity. This analysis was made at the level of the data collection tools.

In general, the content analysis seemed to indicate that exit interviews offer more valid data collection than focus groups. In comparing the actual questionnaires and taped transcripts, the exit interview questionnaire seemed to better capture both the categorical responses and the commentary of clients. In the categorical responses, data collectors recorded 75% of clients' responses correctly through exit interviews and 62% of responses correctly using focus groups.

In addition, in the commentary section it appears that exit interviews were able to record clients' words with more validity than focus groups. Not only were more incorrect responses recorded in focus groups than in exit interviews, but important details were left out of the focus groups responses. As proven from the tape transcripts, focus groups can provide a wealth of information, and the commentary from focus groups contributed important data to the feedback package given to district teams. However, key gaps in the content validity of the focus group tool also existed. These gaps occurred particularly when clients were relating details as to the reasons why they went to the health center or what actually happened during their interaction with the health provider. Table 3 presents an

Table 3

Content Validity for Focus Groups: Recording Events

Question	Recorded conversation (focus group transcript)	Written focus group questionnaire response
What was the reason for your last visit to the health center?	Me, I brought my son who had a very strong fever. Firstly, it was his mother who brought him to the health center. They gave him four pills, two in the morning, two in the evening. After having given the pills, his state did not improve. That is why I decided to bring him myself. They gave him an injection after having given him some serum. But his case continued to not get better. Toward evening, he died.	I brought my child who had a fever and who cried without stopping. After that, my wife brought him without success.
Do you know someone who has had a good experience at the health center? What happened?	For me, my experience relates to my wife. She was pregnant with twins. At her arrival at the dispensary, she did not know that one of the infants was dead. She was able to give birth normally to one living child and the other, who was dead. The nurse was able to bring it out without causing problems to the mother. All this in my absence. And my wife speaks of it often and thanks the nurse.	In my absence, my wife was at the dispensary and she was treated well. It is she who told me this upon my arrival.

example taken from question number 7 to show how much information is not recorded.

While the examples above illustrate important problems with the focus group tool, it is important to remember that any data collection tool outside of taped transcriptions will involve a "synthesizing" of the data in the recording. In other cases, note takers were able to capture key information, recording the main thought of client's phrase on the data collection form. From the data analysis, it appears that data collectors were able to record key elements of clients' comments concerning good and bad aspects of the health center (as contrasted with problems of recording events above) in a reasonable manner. It is interesting to note that, on a very few occasions, focus group note takers added a detail to the "story" that a client was relating that was not present in the transcriptions of the tapes. In general, however, these additions were very minor and did not change the sense of the answer. The examples presented in Table 4 illustrate the process of synthesizing by note takers and constitute essentially valid data collection, even though the transcription results in a much richer description.

In contrast, the exit interviews sampled were accurate on both recording events and good and bad aspects of the health centers. In the review of the transcripts and the actual questionnaires of exit interviews, no major omissions of important events or expressions of clients' satisfaction or dissatisfaction were detected.

Finally, it appears from the analysis of the structured sections of the questionnaires that the presence of check boxes to record clients' responses for both exit interviews and focus groups were well used by data collectors as they conducted interviews and focus groups. However, the rapidity of discussion in focus groups, the difficulties of recording comments from multiple clients at the same time, and the logistics of coordinating between the note taker and the focus group facilitator seem to have resulted in major gaps in data recording for the focus group tool.

Face Validity

Much of the client satisfaction literature speaks of several measures of validity: face, external, construct, and content (Hayes, 1998). Face validity can be considered apparent validity. In this study, face validity was

Table 4

Content Validity for Focus Groups: Positive and Negative Aspects of the Health Center

Question	Recorded conversation (focus group transcript)	Written focus group questionnaire response
In your experience, what are the positive aspects of this health center?	That which filled me with wonder the most at the health center was that when one brings an urgent case, the staff rush to treat them and when the case is not urgent, they get in line and the next person puts themselves behind them. This structuring surprised me a lot and pleased me, since it permits a certain justice.	They always treat the urgent cases before the other sick persons and these other persons must respect the order of arrival.
One knows that, even if a health center functions well, there may be problems. In your experience, what are the negative aspects of this health center?	Me, my problem is that my wife was pregnant and her pregnancy has had complications. So, my problem was that my wife was very sick and we didn't know if the child was living or not. It was a day of striking (no work). We didn't know if there was one child or two and we didn't know what the strike would mean, but we thought that when someone was gravely ill, one had to help them. And that day, my wife was not helped.	We brought my pregnant wife who had had problems. We rented a cart to bring her to the health center. That day, they were on strike, and they refused to treat her. I did everything I could to explain the seriousness, but all in vain.

employed merely as a very preliminary measure in the study design phase when the research team attempted to answer the question of whether the study design allowed for a reasonable expectation of valid information from clients. The study design team attempted to maximize the face validity of the study through several means. First, a pretest of the data collection instruments was employed to ensure that questions were worded properly and that data collectors had ample time to collect data during the interviews and focus groups. Secondly, explicit criteria were created for where and when data collectors could interview or meet with respondents, in order to minimize participant bias in the form of "courtesy" bias. Third, all of the teams were given intensive training on the data collection tools that included field practice and feedback on their performance in order to ensure proper data collection and entry. Finally, each team was supervised early in the data collection process in order to ensure that data collection and entry procedures were followed.

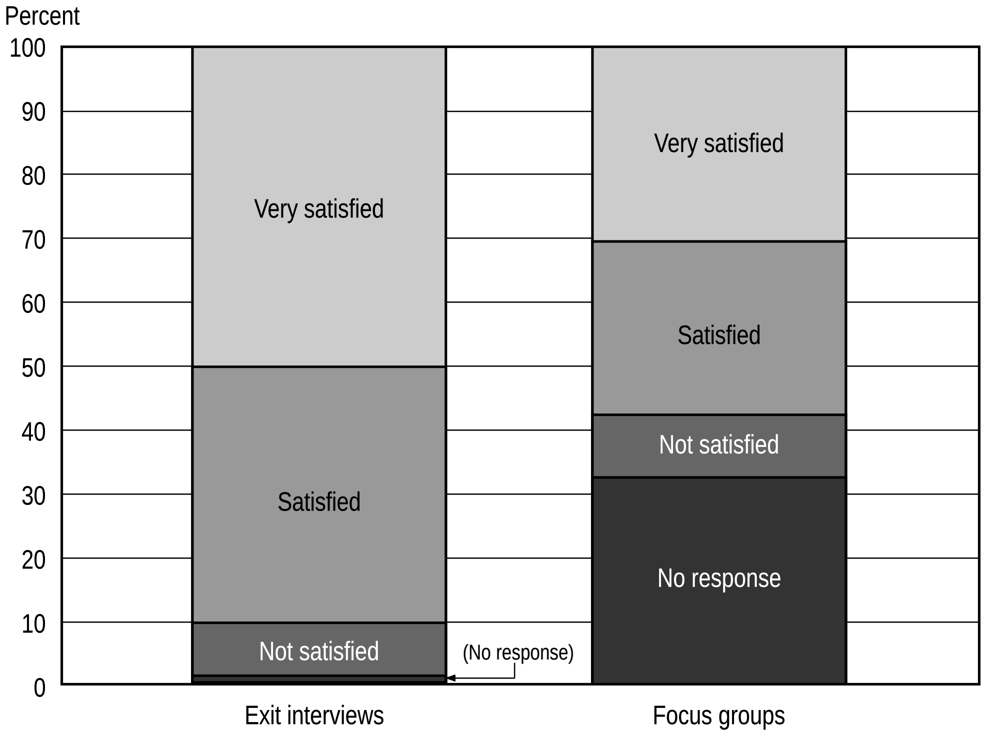
External Validity

A second measure of validity is external validity, which is defined as the degree to which the results can be generalized to other populations. This study attempted to ensure external validity through the use of random sampling at multiple stages of the research design. This random sampling is detailed in the discussion of research design in Section II. Methods. One specific external validity aspect related to exit interviews is that interviewing people as they are leaving the health center creates a self-selected group of more “satisfied” clients. Much of the client satisfaction literature points out that discontinued users or “never” users would tend to be less satisfied than the current users being surveyed in the interviews. The research team found that this selection bias may be a real concern to district managers seeking to gather information that will help improve services and attract new users. In general, the data seem to suggest that the clients questioned through exit interviews are more satisfied with the health services than those clients questioned through focus groups. This was shown to be true in all three districts. Overall, 50% of clients surveyed through exit interviews stated that they were very satisfied with the service at their health clinic, while only 30% of clients surveyed through focus groups were very satisfied. Clients were only included in the focus group if they had had experience with the health system (i.e., the focus group sample did not include clients who had never received services at the health center in question.) Figure 1 illustrates overall satisfaction levels as measured through focus groups and exit interviews in all three districts.

In general, nearly 90% of exit interviewees responded that they were very satisfied or satisfied with their last visit versus approximately 55% of focus group participants. There is some difficulty in interpreting these findings, however, in that a portion of the satisfaction level difference may be due to the large non-response rate in the focus groups. This group includes clients that declined to respond to a given question for whatever reason. Theoretically, this group could also have included missed responses, that is, clients responded to the question but their responses were not captured by the data collector on the data collection tool.

Figure 1

Overall Satisfaction with Services by Tool



Construct Validity

Construct validity measures the validity of an instrument as an indicator of the presence of a theoretical construct. A construct can be defined as an attribute or characteristic inferred from research (Hayes, 1998). This study was concerned with construct validity only in so far as the data collection actually measured clients' "satisfaction" with services. While there are numerous methods of assessing construct validity, this study is concerned with measuring "convergent" validity (i.e., that responses correlate with other responses with which they are "supposed" to correlate) through categorical and content analysis on client responses. This analysis was done at the level of the data collection tools and the data collection methods. Analysis was done on the following questions:[7]

- #3/4 ("In your view, were you satisfied with the visit?"), and
- #8/9 ("In sum, do you think that this clinic is: a) fine as it is, b) needs to be improved or c) do you not have any opinion?").

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[7] Note that the exit interviews had one fewer question than the focus groups, which is why two numbers are always listed when referring to a specific question. However, the questions themselves were worded exactly the same.

These two questions were selected because, out of the set of questions on both data collection instruments, they were believed to measure most closely the "construct" of overall satisfaction. By comparing responses on these two questions, the research team expected that if someone answered that he or she was satisfied with the visit, that the respondent would also tend to state that the clinic was "good." In order to analyze construct validity, a non-parametric analysis of association between questions 3/4 and 8/9 using Spearman rank correlation coefficients was conducted. A correlation coefficient was determined for the two questions above, first for all exit interviews and for all focus groups and then for each of the three data collector types. Secondly, the coefficients were converted into Z-scores. Using these Z-scores, the difference between the coefficients was tested for significance. This analysis is summarized in Table 5.

In this analysis, the overall correlation for all methods and all tools between the two questions was .59. Measures for focus groups and exit interviews were .74 and .31, respectively.[8] It appears, from this analysis, that focus groups were significantly more construct-valid. Further investigation is needed into this, since, as is discussed in the following section, exit interviews generally were more valid than focus groups when

Table 5

Spearman Correlation Coefficient Analysis of Construct Validity

	n	Spearman rank correlation coefficient	P-value for difference in tools and methods
Overall correlation	106	.59	
Tool analysis			
Exit interviews	52	.31	Significant difference between tools at p < .01
Focus groups	51	.74	
Method analysis			
District 1-same health district	39	.08	Significant difference between all three districts at p<.01
District 2-outside enumerators	39	.22	
District 3-neighboring health district	24	.48	

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[8] Readers should note the effect of sample size in this difference.

comparing taped transcripts to the questionnaires. It may be, as several reviewers of this report have suggested, that the two questions used in the correlation analysis may measure different “dimensions” of satisfaction and that you should expect persons to answer similarly on, “Was the visit satisfying?” and “Is the clinic’s level of service good?” only in certain situations. It also appears that same health data collectors, i.e., supervisors from their own district collecting the data, offered significantly lower construct validity than the other two methods, and that supervisors from a neighboring district seemed to offer the highest construct validity. There is some concern that, given the relatively low individual correlation coefficients for the tools and data collector types, that these two questions may actually be measuring different things. It is plausible that clients might be evaluating the specific visit with the first question while evaluating the clinic overall with the second question, i.e., a composite of satisfaction reflecting all experience with the clinic to date. However, a review of the commentary sections from question #3/4 on both exit interviews and focus groups shows that, when asked “Were you satisfied with the visit?” clients seem to be commenting on their experience to date with the clinic and not just on their last visit. However, it is clear that this should not be the only measure of validity.[9]

2. Feasibility

FEASIBILITY was defined in this study as the ability of the data collection teams to collect and compile data on client satisfaction using the different tools (focus groups and exit interviews) provided.

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[9] Several reviewers of this report have commented on the possibility that these questions are measuring different “elements” of satisfaction. One reviewer commented that question #3/4 regarding the visit may be measuring elements that would be expected to be more time-sensitive, such as interpersonal communication. By contrast, in question #8/9 on how “good” the clinic is, feelings regarding amenities and structural elements of the clinic may have more weight. This analysis of construct validity was undertaken to ascertain whether questions designed to measure a single summary construct of overall satisfaction did, in fact, measure that construct. An analysis of clients’ comments does not indicate that these questions systematically measured significantly different “elements” of overall satisfaction. Therefore, while this analysis of construct validity creates questions that need further investigation regarding the major differences seen in some correlation coefficients and the overall low values of other coefficients, the authors believe that it does illuminate important differences between the tool and methods. This method of analyzing construct validity is being further validated by the Quality Assurance Project and will be discussed in an upcoming research article on this topic.

The data collection was judged to be feasible by all of the data collection teams (83% of responses) with no major differences in responses by data collector type. When asked if they felt adequately prepared for the research, 90% of the feedback comments were positive. Data collectors cited the training, and specifically the addition of field practice sessions followed by feedback, as one of the primary reasons why they felt well prepared.

Feasibility of Data Collection Tools

There were mixed conclusions as to which data collection tool was more feasible. While districts 1 and 3 were almost exactly split as to which data collection tool was most feasible, data collectors from district 2 felt unanimously that focus groups were more feasible to employ as data collection instruments for client satisfaction. However, all of the data collection teams cited difficulties in setting up focus groups, which involved contacting the village chief, explaining the study, selecting participants, and contacting participants. In addition, teams found that a significant amount of time was spent waiting for participants to arrive at the focus group site. The overall setup time varied from 1 to 3 hours per focus group. A number of the data collectors cited taking notes as a specific difficulty related to the focus groups. However, the most frequently stated response to the "easiest" aspect of the data collector's job referred to the ease of administering the questionnaire. Each client was instructed that he or she did not need to respond to any question with which they felt uncomfortable. In some cases, clients declined to comment, although data collectors were not required to note the reasons why. The refusal of clients to respond to questions (50% of the negative responses were related to the difficult aspects of interviewing) was presented as a specific difficulty that impeded the feasibility of the study; this did not seem to vary by tool.

Feasibility of Data Collector Types

There did not appear to be significant differences in the feasibility of the different data collection methods as reported by the feasibility questionnaire. Some differences in implementation were noted between methods, however. Some health staff interviewers and neighbor health staff interviewers rated the non-response of clients as the biggest difficulty (66% of responses in both districts), while the outside enumerators cited note-taking during focus groups as the most difficult aspect of their job (50% of responses in district 2). One hypothesized reason for this is that health staff may be more familiar with clients' health complaints and the processes within Nigerien health clinics. For instance, outside enumerators were less familiar with health and sickness terms in French and cited this as a difficulty with certain questions on the data collection instruments. It did not appear to significantly impair their ability to collect data on any other questions. Outside enumerators seemed to have some advantages, however, in that they could be engaged for this data collection without interfering with the normal delivery of services (which was not the case with the other, health system supervisor-based methods).

3. Utility

UTILITY in this study was defined as the "usefulness" of the study, that is, the degree to which the study results were useful to district health management teams in terms of improving the quality of their service delivery. This measure takes into account both how useable the data collected are for the district management teams and data collectors, as well as the degree to which district management teams actually did something with the data. Utility was measured using three methods: a) questionnaires to the different data collection teams, b) key informant interviews with the district health management teams, and c) unstructured content analysis comparing the two tools. This analysis discusses the two most important measures of utility, the interviews with district teams and the content analysis of tools.

Interviews with End Users of the Data: the District Health Management Teams

Interviews with the district teams were used as a measure of how «useful» the end users of the data found the research. This analysis was done to measure the general utility of the data collection and, it was hoped, to gain insight as to whether one method or another was more useful based on responses from the individual district teams. In general, however, responses regarding the utility of the data collection did not vary by method. The results of these interviews conducted with district team members show that all three district teams felt that the research was, as one team stated, "useful and useable."

The primary reasons for the usefulness of the data as cited by the health management teams relate to how the data gathered elicits “all of the aspirations” of district teams’ own clients. In addition, the teams felt that such data would help them to “improve” their service delivery. All of the teams acknowledged the intrinsic value of information regarding clients’ needs and satisfaction levels. Teams felt that work on client satisfaction was “long-term work” (“*travail de longue elan*”) that “must be continued.” They also felt that there was “a lot of information” in the data feedback package that “effectively demanded of the teams to take advantage of the data.”

However, the districts differed somewhat in how they used the data. Approximately 10 weeks passed between the original feedback of data from the study and the follow-up interviews regarding utility. In that time, the districts that employed data collectors from the health field (district 1 and district 3) had already integrated the concept of client satisfaction data collection into their supervision systems. District 1 integrated the information into their supervision work slightly quicker than district 3, in part due to time constraints on the district manager in district 3. (District 3 had collaborated on several research projects with other organizations just prior to the client satisfaction study and was in the middle of sorting through data from those other studies.) District 2, which employed outside enumerators, had not conducted any supervision visits since the data feedback and had not yet made specific plans for how to use the data.

In addition, there was a fear cited in the interview for district 2 that the district level in Niger “lacked the resources” to integrate this data collection into the regular supervision system. A district team member from district 2 felt that “another training” in operations research methods might be necessary to truly prepare the district health team to conduct such research regularly. Districts 1 and 3, on the other hand, had already adopted the client satisfaction data collection approach, stating that “its integration into the monitoring (system) is an absolute necessity” (district 1). Both districts 1 and 3 believed that it would be possible to conduct such a data collection regularly: every year (district 3) or every two years (district 1). More significantly, data from the second round of data collection in April 1998 seem to indicate that there is some difference between the districts in terms of changes in satisfaction levels. Districts 1 and 3 both had positive increases of 18% in the number of clients who indicated that they were “very satisfied.” At the same time, district 2 had a decrease of 24% in the number of clients indicating that they were “very satisfied” with services.

Clearly more research is needed to discover the reasons why such discrepancies might exist between districts, and it cannot be assumed that the use of client satisfaction data was the only reason for changes in satisfaction levels between the districts. In addition, these findings must be viewed with a certain skepticism, in that it is possible, from a research design standpoint, that the district management teams could have differed from each other in ways other than the method of data collection. These differences could have influenced the use of the client satisfaction data. It was certainly not within the scope of this research to determine whether one type of data collector leads to more or less acceptance and use of the data by district management teams. However, from the experience in Niger, it does appear that the type of data collector may play a role in the degree to which data are used for management improvement. In addition, the data also suggest that the integration of client satisfaction data into regular supervision efforts may yield positive results in terms of client satisfaction levels.[10]

Content Analysis Comparing Tools

Utility was also measured through content analysis of exit interview and focus group questionnaires to answer the question, “Which tool seems to gather the most accurate and in-depth data relative to clients’ level of satisfaction?” This was accomplished first through content analysis and grading for depth of information and second through key-word-in-context lists.

Exit interviews were generally judged to be more useful as a data collection tool for the type of information given and the amount and quality of information. Exit interviews tended to have not only more information, but also more detailed information as measured in the amount of “specificity” in clients’ comments. For example, question 2 on the survey asked “What happened during your visit to the health center?” People tended to be more expansive in exit interviews than in the focus groups concerning what occurred during the visit, behaviors of the health workers and what they noticed. The responses to the same question on the focus group questionnaires tended to be less expansive, in some cases with only two or three words per person for the entire question.

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[10] QAP plans to explore issues of changes in client satisfaction levels and differences between districts in more depth in a follow-up report.

One concern of the research team was that, if exit interviews provided detailed information about the events of the client-provider interaction, the nature of the one-on-one interview would discourage clients from responding in-depth on aspects that needed improvement at a particular center (i.e., a "courtesy" bias). The differential bias for exit interviews appears to have occurred only infrequently, in that exit interviews appeared to have comparable, and perhaps even superior detail on "important" issues. To examine this issue in more detail, a content analysis was done of a randomly selected sample of the semi-structured focus groups and exit interviews, coding responses for "key" comments. Key comments were defined as comments expressing strong opinions or emotions or comments detailing explicit problems or suggestions. While the results of this analysis are only marginally significant (p = 0.056), it appears that exit interviews have more of these "key" comments per participant, as presented in Table 6.

Table 6

Utility by Tool: Key Comments per Participant

	Exit interviews	Focus groups
Average number of "key" comments per participant	2.6	1.5
Number of questionnaires sampled	52	52

4. Cost

IN terms of cost, this report presents two methods of assessing "cost." The first is per diem costs, the costs that district teams would incur if they were to implement a client satisfaction data collection using the tools or methods described in this report. The other method of analyzing cost is in terms of data collectors' time, i.e., the time that it took to complete the tasks associated with gathering client satisfaction data using exit interviews or focus groups by each of the three data collector types. Cost was measured through a retrospective cost analysis of per diem, travel and support costs for the analysis of actual costs and through a concurrent time tracking (on the data collection questionnaires) for time costs.

Cost Analysis Methods

In this analysis, the per diem costs associated with each data collection method were measured. The primary reason for analyzing these costs is to see if using outside enumerators or health staff from a neighboring district resulted in higher total costs due to extra travel and lodging costs. Training costs were not included in this analysis because they were the same for each data collection team. Given the nature of the per diem costs, the research team was not able to measure per diem costs by data collection tool.[11] This analysis was based on a standard per diem pay rate for the research teams. The analysis results are presented in Table 7.

Table 7

Per Diem Costs by Data Collection Method

Data collection method	Total per diem costs for data collection
Same health staff (district 1)	$230
Outside enumerators (district 2)	$285
Neighboring health staff (district 3)	$300

In terms of per diem costs, it appears that using health staff from within the district (district 1) was least costly as measured by total cost ($230). The next least costly method was using outside enumerators ($285 in total cost). The most costly method of data collection was using health staff from a neighboring district ($300 in total cost). One explanation for the differences in costs above is that the extra travel and lodging costs for data collection teams who come from outside a given district appear to have had an effect. The differences between the outside enumerators and the neighboring district data collection methods appears to be due to the lower labor cost of using literacy volunteers versus neighboring health supervisors.

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[11] While teams generally conducted exit interviews in the morning and the two focus groups in the afternoon for each center, the teams were focused on obtaining the sample size necessary and occasionally used parts of the afternoon to complete the exit interview sample. This makes any allocation of per diem costs to one or the other tool extremely difficult and unreliable.

Time Costs by Tool

The tools and data collection methods were also evaluated based on the time cost to implement them. In this analysis, the research team was interested in addressing district health teams' need to know how much time the different methods and different tools demanded. In this analysis, both the time costs of the data collection tools and the data collection methods were analyzed. However, in the analysis of time costs, the research team has assumed that lower time per participant (either focus group participant or exit interviewee) indicates better cost-efficiency. This may not be true in some cases, in that data collectors may be talking with many participants but may not be gathering good data during those interviews or focus group discussions. In addition, this analysis of time to use the tools should not be construed to mean that lower time costs are always desirable. Although this was not seen in this study, it could be argued that, at a certain point, lower time costs in using the tools results in poor data collector-client interaction. The results of the time costs analysis are presented in Table 8.

Table 8

Average Time per Interviewee and per Focus Group Participant by District

	Cost per interview			Cost per focus group participant		
	N*	Time (min)	Average time per interviewee	N	Time (min)	Average time per participant
D1 (Konni) - Same health staff	102	2092	21	76	530	7
D2 (Keita) - Outside enumerators	96	1566	16	73	453	6
D3 (Madaoua) - Neighboring health staff	100	1477	15	57	446	8
Total	98	5135	17	206	1429	7

*N = number of participants. This number correlates only to the number of participants where a time was registered and will not correspond to the total number of participants.

In terms of time costs, it is apparent that focus groups take less time per participant. Overall, focus groups took 59% less time per participant than exit interviews, with data from the individual districts showing that focus groups took 47% to 66% less time than exit interviews.

An analysis of variance on these time costs shows that the differences were significant for exit interviews, although not for focus groups (due perhaps, in part, to the smaller sample size). However, while Table 8 illustrates the statistically significant differences between the data collector types in terms of the average time spent per client, the practical significance of a difference of six minutes per client may vary depending upon local conditions and the "opportunity cost" of those six minutes per client. District health managers may want to consider these differences in time costs when evaluating the different methods of collecting client satisfaction data. The analysis of variance results is presented in Appendix 6.

IV. Conclusions

A. Rating Tools and Methods for Measuring Client Satisfaction

WITH multiple dimensions and sub-dimensions on which to judge the tools and methods tested in this study, readers of this report may find it difficult to evaluate the tools and methods on an overall level. Given the findings relative to the feasibility, cost, utility and validity for the tools and methods, the research team attempted to assign a summative rating to the tools and methods using a multiple criteria matrix. Multiple criteria matrices are widely used in quality assurance and other management disciplines in order to allow teams or individuals to evaluate options based upon a set of explicit criteria. Criteria used for such matrices should be selected as ones important for assigning a rating or making a decision (Franco, et al., 1997).

Table 9 rates the data collection tools and methods evaluated using a multiple criteria matrix. Each of the tools and methods was rated based upon the data collected for the four measures of concern: feasibility, utility, cost and validity. The rating scale was on a scale 1 to 5, where 1 constitutes the lowest rating (i.e., “not at all feasible”) and 5 constitutes the highest rating (i.e., “highly feasible”).[12] In terms of an overall “value” rating, exit interviews received the highest rating for tools, while supervisors from the same district received the highest rating for methods.

Table 9

Multiple Criteria Matrix Rating Tools and Methods

	Feasibility	Utility	Cost	Validity	Overall rating
Tools					
Exit interviews	4	4	2	4	14
Focus groups	3	2	5	1	11
Methods					
Supervisors from same district	3	5	5	1	14
Outside enumerators	5	2	3	3	13
Supervisors from neighboring district	2	5	1	4	12

It is extremely important to note that these ratings, while based upon the data collected, are the ratings of the study authors and, as such, are subjective in nature. In addition, while the matrix places emphasis on an overall rating, managers considering these tools and methods should weigh all of the advantages and disadvantages detailed in Section III.C., as they relate the study to their own context. For example, in questions of validity, the research team felt that the best measure of validity was the comparison between the taped transcripts and the actual questionnaires (content validity). This is the reason for the higher rating for validity for exit interviews. However, other evidence presented in this report that managers should consider suggests that exit interviews may not be as “externally” valid nor as “construct” valid. Finally, while “supervisors from the same district” received the highest method rating, the difference in overall ratings for methods is slight, and the research team felt that outside enumerators held important advantages for managers to consider in the realm of feasibility.

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[12] Other dimensions were rated as follows: utility, 1=not at all useful, 5=very useful; cost, 1=very costly, 5=not at all costly; validity, 1=not at all valid, 5=highly valid.

It is clear that the semi-structured focus group tool offered important advantages in terms of streamlining the data collection process. In addition, the tool allowed district teams without tape recorders or resources for transcription to gather data from clients outside of the health system who are less satisfied with their local health services. This is an important issue in developing countries where health system utilization is traditionally low. However, further refinement is needed to the concept before the tool can be applied effectively. It seems likely that low response rates on some focus group questions are due to either recall problems, data collector difficulties with the form, or some combination of the two. Further analysis may be needed in order to make conclusions about the cause of this phenomenon. Possible innovations that would permit better information gathering with the tool might include augmenting the number of focus group note takers in order to permit better data recording. In this instance, two note takers could split the recording for every other question in order to “catch up” with the conversation. In addition, there is no tool that can replace good training in focus group facilitation and note taking. Of course, other options exist that were not analyzed in this report for reaching potentially less satisfied client groups. One of these is a market intercept survey, where clients are interviewed at the market regarding health services. Again, some sort of semi-structured tool could aid in data collection.

In terms of validity, it appears that exit interviews, as compared with the semi-structured focus group tool, are more construct valid, but may be less externally valid, or “generalizable” for clients who do not frequent the health center. This conclusion has been supported in the literature, and further work is needed to develop tools that allow district teams to reach such clients feasibly. The reasons for lower construct validity values for supervisors from the same district are less clear and should be explored further with additional research. One hypothesis is that supervisors contribute significantly more interviewer bias when gathering data from their own district, however, the reasons why this bias would be differential across questions are unclear. Other approaches can be enumerated that could take advantage of the breadth of exit interviews (in terms of their sample size), while also offering managers more in-depth data. These might include a combination of exit interviews with key informant interviews to explore in depth some of the concerns and problems raised from exit interviews. In this way, health managers are able to track progress with the client satisfaction over time (a key element in using satisfaction data) as well as obtain more meaningful, in-depth data on specific problems and how to improve services.

As to the utility of the data collection, the responses from district teams where health personnel collected the data clearly differed in the type and strength of comments as compared to the district using outside evaluators. This could be due to attitudes of the health staff to data collection efforts conducted by staff not trained in health. However, it could also be due to exogenous factors such as staffing situation in the outside enumerator district and staff available for data collection during the research project.[13] Further research may be warranted on this point in the next data collection round. All of the district teams had suggestions for improving the research approach in general:

- Revise the interview guides to include fewer questions
- Disseminate the results to the health center level as part of the feedback
- Involve the data collectors in the analysis phase, and
- Continue support for another round or rounds of data collection to ensure that client satisfaction data collection and use becomes something "routine" for district teams.

B. Rapid Feedback Package

ONE of the most successful aspects of the study was the creation and use of a rapid feedback package of the study results to the end users of the data, the district health management teams. This feedback package was delivered in meetings with each district management team within one week following the data collection. The package was based upon the Quality Assurance Project's "elements of quality."[14] The feedback package employed rapid content analysis and key-word-in-context lists to encapsulate the qualitative data collected on four key questions. These questions are listed below:

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[13] The respondent for the interview from the outside enumerator district was part of the team forced to collect data with only 2 data collectors instead of 4 data collectors. The difficulty of this experience was noted in the respondent's feedback to the Operations Research team following the data collection and could have influenced his responses to this interview. This situation happened by accident, as the other two data collectors for this district had to withdraw from participation in the study because of last minute requirements within their districts.

[14] For a more in-depth discussion of the elements of quality, please refer to the Quality Assurance Project's Methodology Refinement Series monograph entitled *Quality Assurance of Health Care in Developing Countries* (Brown, et al., 1992).

- #3/4 – In your view, were you satisfied with the visit?
- #4/5 – In your experience, what are the positive aspects of this health center?
- #5/6 – Even when a health center functions well, with health workers and medicines available, there may nevertheless be some problems. In your experience, what are the negative aspects of this health center?
- #7/8 – What suggestions can you make to improve this health center?

The data on these lists were coded according to “element” of quality (professional competence, access, effectiveness, client satisfaction, efficiency, continuity, safety and amenities) and a frequency count of quality elements made by question. This gave the district management teams a picture of the most important aspects of their service according to an easily readable graph of quality elements. Then the most frequently cited quality elements were explained further in attached matrices which listed the “types” of responses in the clients’ own words and the frequency of citation by exit interviews and focus groups.

This feedback package was universally praised by the district health management teams. During meetings with the district management teams following this feedback, all of the district teams stated that the research was extremely useful and that they planned to integrate the data and, in some cases, the practice of client satisfaction data collection, into their regular monitoring and supervision. All of the teams stated that the data presented would allow them to explore and resolve service delivery problems. In one district, the district health management team had an initial defensive reaction to adverse client satisfaction data, however, the detail in the feedback package allowed them to focus on specific needs and how to meet those needs. All of the district teams cited the rapidity of the feedback as one of the research projects’ strongest points, in that they felt that the data “described the actual situation currently” in the district.

It is hoped that this report provides information and templates for tools, methods, analysis and feedback approaches that can be readily adapted to other settings in the developing world. While managers in different contexts may find that other factors influence their decision to use a given method or tool, it is hoped that the information in this report will serve to guide such decision-making and, in the end, encourage health providers and supervisors to consider the client perspective in their own definitions of quality health care delivery.

Readers with additional interest in client satisfaction measurement and use in developing countries are encouraged to contact the authors for further analysis of findings on clients' satisfaction and needs in Niger, changes over time in these needs, and the relationship between satisfaction, utilization and quality of care.

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Definitions, conceptual model and review of the literature

Definition of Terms

The following operational definitions were gathered from the literature review for this project and used in the preparation and execution of the research.

Data collection methods

For the purposes of this research, data collection methods are defined as the method by which the data collection tools are implemented, in this case either through a) supervisors from the same district collecting the data, b) supervisors from a neighboring district collecting the data or c) outside observers collecting the data. This design is presented in much greater detail in Section II.A. of the main body of the report.

Data collection tools

For the purposes of this research, data collection tools are defined as the mode of data collection, in this case either focus groups or exit interviews.

Determinants of satisfaction

Determinants of satisfaction are client-based attributes that influence client satisfaction, such as sociodemographic characteristics, physical status, psychological status, etc.

Dimensions of satisfaction

Dimensions of satisfaction are service-related attributes that influence client satisfaction, such as technical competence, access to service, interpersonal relations, efficiency, continuity, safety and amenities (Brown, et al., 1992).

Quality

While no single definition of quality may apply in all situations, we say in general that quality of care is defined as the level of adherence to effective and efficient standards (Brown, et al., 1992). In the case of research regarding client satisfaction, we are measuring perceived quality of care. This is defined as the extent to which providers adhere to effective and efficient standards of care as perceived by their clients.

Quality assurance

Quality assurance is “that set of activities that are carried out to set standards and to monitor and improve the performance so that the care provided is as effective and as safe as possible” (Brown, et al., 1992).

Satisfaction

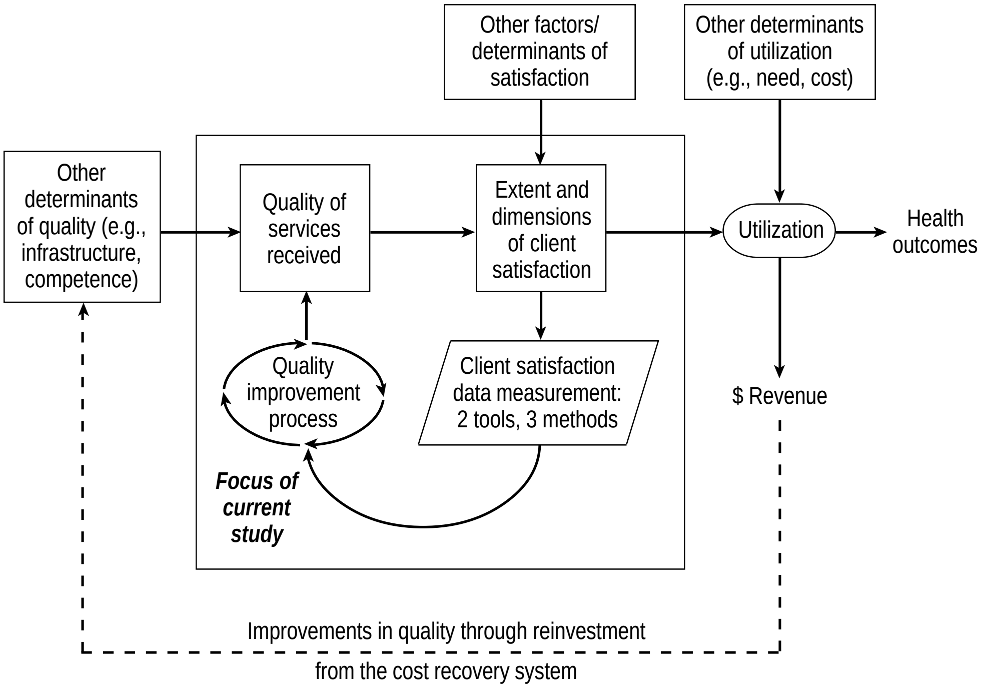
While there are numerous definitions of client satisfaction, one of the most useful is offered by Pascoe. He defines client satisfaction with health care as a health care recipient’s reaction to salient aspects of his or her service experience. Satisfaction is assumed to consist of a cognitive evaluation and an emotional reaction to the structure, process and outcome of care (Pascoe, 1984).

Conceptual Model

There is a vast literature on the different explanatory or ethnographic models of client satisfaction with health care. Interestingly enough, there has been considerably less written on the testing of these models. The purpose of this research effort is not to create a new model of client satisfaction, but rather to operationalize the measurement of client satisfaction for management decision-making. The following model details the primary relationships of interest in this research project.

Figure 2

Conceptual Model: Client Satisfaction Measurement and Quality Improvement


Other factors/ determinants of satisfaction
Other determinants of utilization (e.g., need, cost)
Other determinants of quality (e.g., infrastructure, competence)
Quality of services received
Extent and dimensions of client satisfaction
Utilization
Health outcomes
Quality improvement process
Client satisfaction data measurement: 2 tools, 3 methods
$ Revenue
Focus of current study
Improvements in quality through reinvestment from the cost recovery system

Literature Review

Client satisfaction has been a rapidly growing topic within the health services literature in the developed world since the mid-1990s and has more recently become a topic of great interest in the developing world literature since the early 1980s. A number of excellent reviews of the literature exist (Lebow, 1974; Swan and Carroll, 1980; Ware, Davies-Avery and Stewart, 1978; Pascoe, 1984). This section of the report is certainly not intended to duplicate such large-scale efforts. However, in order to accurately portray the objectives, research design and overall contribution of this particular research project within this literature, it was necessary to define the state-of-the-art in client satisfaction in health and the gaps that this study attempted to address.

The importance of client satisfaction data

The question of why to consider client satisfaction and spend scarce resources in its measurement is a valid one. While most authors agree that client satisfaction should play a pivotal role in the assessment of quality of care within health and family planning programs, there is considerable confusion in the health services literature as to what that role should be. As Tavrow states, "…the majority of family planning experts and researchers seem to take as an article of faith that higher quality of services… will naturally translate into higher satisfaction" (Tavrow, 1997). Three important points can be made to answer this question. First, many researchers and health care practitioners consider client satisfaction to be an integral part of the quality of care. Therefore, the measurement of client satisfaction is, in fact, an end in and of itself as the measurement of one dimension of the quality of the care (Donabedian, 1980). In addition, research has shown that, in many circumstances, clients are more likely to comply with treatment and prescription protocols if they are satisfied with the care they have received (Cleary and McNeil, 1988).[15] Finally, client opinions are a key element in determining the relative value of the risks and benefits associated with alternative paths of care. Indeed, several modern health and economic evaluation methods, such as the willingness-to-pay approach, depend upon clients' needs and preferences.

Dimensions of satisfaction in health care delivery

From models of quality of care delivery begun by authors such as Donabedian, three components have evolved as the primary elements of health care delivery. These are a) the technical element, b) the interpersonal communication between provider and client and c) a broader category known as amenities. Cleary and McNeil cite that the most frequently measured aspects of satisfaction include: personal aspects of care, technical quality of care, accessibility and availability of care, continuity of care, patient convenience, physical setting, financial considerations and efficacy. The Quality Assurance Project has broadened these three areas to eight primary "dimensions" of quality, which include: technical competence, access to service, effectiveness, interpersonal relations, efficiency, continuity, safety, and amenities. (Brown, et al., 1992). Clients' "satisfaction" can be measured relative to any of these dimensions, however, as we will cite later, research has shown that certain dimensions tend to be more important to clients than others. Figure 3 summarizes several authors' presentation of the dimensions of satisfaction in health.

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[15] This conclusion has been challenged by some research, however. Greenfield (1985) found that patients in a satisfaction improvement program were more active in their own care and had fewer disease-related problems but were not more satisfied. Roter (1977) found that patients who asked more questions were actually less satisfied with care.

Figure 3

Findings on Clients' Dimensions of Quality

Cleary and McNeil, 1988

❐ Personal aspects of care
❐ Technical quality of care
❐ Accessibility and availability of care
❐ Continuity of care
❐ Patient convenience
❐ Physical setting
❐ Financial considerations
❐ Efficacy

QAP Dimensions of Quality, 1992

❐ Technical competence
❐ Access to service
❐ Effectiveness
❐ Interpersonal relations
❐ Efficiency
❐ Continuity
❐ Safety
❐ Amenities

Hall and Dornan, 1988

❐ Overall satisfaction
❐ Humaneness
❐ Technical competence
❐ Outcome
❐ Physical facilities
❐ Continuity of care
❐ Access
❐ Amount of information
❐ Cost
❐ Bureaucracy/organization
❐ Attention to psychological problems

Parasuraman, Zeithaml and Berry, 1988

❐ Reliability
❐ Tangibles
❐ Responsiveness
❐ Assurance
❐ Empathy

Despite the considerable amount of research on the salient dimensions of client satisfaction in health, almost all of the scientific literature on this topic is restricted to the industrialized world. This project seeks to expand the knowledge base of the health services literature by providing more detail as to the relevant dimensions of client satisfaction in the developing world.

Determinants of satisfaction

A core set of general client-related factors, or determinants, are thought to be correlated with client satisfaction. These include:

- Sociodemographic factors
- Physical and psychological status, and
- Attitudes and expectations concerning medical care.

While much has been written on sociodemographic influences on satisfaction (in health as well as other sectors), a review of the literature has shown that sociodemographic factors have an inconsistent correlation with satisfaction. Two of the only exceptions to this rule are that older women and younger men seem to have consistently higher levels of satisfaction with health care (Cleary and McNeil, 1988). Physical and psychological status generally have a positive association with satisfaction, but the few studies that examined this relationship employed multivariate techniques in their analysis, casting some doubt on the applicability of the results. Furthermore, the difficulty of controlling for health status in studies of satisfaction makes these multivariate techniques less appealing. Because of the above inconsistencies and methodological difficulties, this research did not attempt to measure the importance of a particular set of determinants on client satisfaction in Niger. The study did, however, gather background information on sociodemographic factors of clients.

Expectations

There has been a widespread interest in the role of expectations in health service delivery, particularly from the standpoint of creating "demand" for health services. Simply stated, the interest in expectations lies in the belief "…that a given response will be followed by some event; an event has either a positive or negative valence or effect." (Fishbein and Ajzen, 1975). However, as Williams concludes, it appears that expectations have a role in satisfaction but that its influence on satisfaction may vary according to the technical nature of the specific dimension of quality being measured. "The greater the perceived esoteric or technical nature of treatment, the more likely it is that many service users will not believe in the legitimacy of holding their own expectations…" (Williams, 1994). This hypothesis is borne out in research by Hall and Dornan where provider competence, an area of technical quality, explains only 3-4% of client satisfaction with services (Hall and Dornan, 1988).

In addition, there is little empirical evidence that specifically explains the degree of importance of expectations in clients' satisfaction with care and subsequent actions relative to the health care system. Tavrow points out that, while recent models of client demand have emphasized the role of expectations and that the "expectations" theories have a certain "semantic" appeal, their practical application from a research standpoint is negligible (Tavrow, 1997b). This research will not attempt, therefore, to measure the role of expectations in determining client satisfaction.

Need for information from developing countries

A key conclusion of literature review for this research was the dearth of scientific research on client satisfaction with health services in the developing world. A 1988 review and meta-analysis of 221 patient satisfaction studies published in English-language journals between 1966 and 1986 found that more than 97% had been carried out in the United States and Europe (Tavrow, 1997; Hall and Dornan, 1988). By contrast, a survey carried out in the United States of Veterans Administration hospitals revealed that 99% had inpatient satisfaction surveys in place in their facilities and 85% maintained an outpatient satisfaction survey process (Davies and Ware, 1981).

A review of the literature in 1996 (Tavrow, 1997) found only 5 studies of client satisfaction with medical care from developing countries and only one from Sub-Saharan Africa (Gilson, 1994). That study, which was conducted in Tanzania, attempted to study the following elements:

- Clients' perceptions of preventive care
- Clients' perceptions of the main referral unit
- Patterns of resource use by clients and factors contributing to those patterns, and
- Perceptions of the cost of obtaining care and clients' willingness to contribute.

Some of the chief findings of that study were that communities are not passive recipients of health care. On the contrary, community members actively and constantly judge the worth of medical service provided through the Ministry of Health clinics versus alternatives such as traditional healing. Poor attitudes of staff and unavailability of drugs at the clinic dispensary were strong predictors of client dissatisfaction, and distance from the health center seemed to be a clear confounder in analyzing satisfaction across clients. The study also pointed out important methodological issues. While 65% of clients across the facilities that were studied stated that they were satisfied with the care they received during their last visit to the facility, there were clear differences between facilities.

In addition, a gap exists in the methodologies for measuring client satisfaction that are appropriate for developing countries. While much has been written on methods for client satisfaction measurement in developed countries through focus groups or exit interviews (Greenbaum, 1993; Krueger, 1988; Hayes, 1998), many of these methods demand significant outlays of resources. Even where efforts have been made to incorporate client satisfaction data gathering into health system operations in developing country settings, the time needed for interview or focus group sessions, transcription, translation, coding and reporting cycles is often prohibitive for many district management teams.

Methodologies for measurement

There are a whole range of issues related to the measurement of client satisfaction. In essence, the methodology for satisfaction measurement is not yet standardized in the developed world, and virtually no information exists on feasible methods for measuring client satisfaction data in the developing world. Part of this problem is due to the reluctance of client satisfaction researchers to build upon the results of their predecessors. As Cleary and McNeil state, “Surprisingly few investigators have used scales developed by other researchers…” (Cleary and McNeil, 1988). One of the most important methodological issues in measuring client satisfaction that has been discussed by many authors is what is known as the “courtesy bias” where clients tend to give positive evaluations of the care they receive. This has been dealt with in the United States through more detailed differentiation within the satisfaction scale on the positive end of the scale. Informal research undertaken by the Quality Assurance Project’s operations research team in March 1997 in Niger indicated that some clients in the Nigerien context may also have a bias in favor of health professionals when relating their assessments of care. Health professionals, especially those perceived to be supervisors, may be seen as being “in control” and having the ability to act upon the opinions that the clients relate. While the need for unbiased assessments by clients of their care is the point of any client satisfaction data gathering exercise, the cost and feasibility of obtaining that data must also be considered.

The other methodological issue that this study addressed is the issue of the actual data collection tool itself. Exit interviews have long been employed in health and family planning service provision in the developing world as a feasible method for client satisfaction data gathering. However, in low utilization situations, exit interviews may not capture those least satisfied customers. On the other hand, focus groups can be resource-intensive in terms of transcribing the session, coding the data and analyzing the data. Traditionally, focus groups have been employed as formative data gathering methods and, in the client satisfaction field, as a basis for more structured information gathering through exit interview forms (Greenbaum, 1993.) This study employed focus groups in this fashion, using a round of formative data gathering to hone the data gathering tools' "quality dimensions" or the areas that define quality service to clients (Hayes, 1998). However, this study also explored the use of focus groups as a structured approach to client satisfaction data gathering.

Use of client satisfaction data

The final major issue that this study addressed is the use of client satisfaction data once collected. While there are many ethnographic and explanatory models of client satisfaction, little has been written on the effectiveness of different feedback mechanisms to promote understanding and action on the part of providers. In addition, despite the fact that many client satisfaction studies in health care exhibit high rates of favorable feedback, often as high as 90% positive, many providers exhibit anxiousness about the implementation of a client satisfaction measurement system. This may be due to fear of retribution, feelings that this system will add to their already heavy workload or genuine concern that they may not be able to deliver optimal care. The present study involved a pre-intervention awareness training for providers in the study districts regarding the purpose of the research, their role in it and the importance of client satisfaction data not for punishment reasons but for quality improvement.
In addition, very little research exists in the developing world literature on how client satisfaction data can be used as an input to quality improvement efforts. The Quality Assurance Project has developed a methodology

that has been field tested in numerous countries in Africa and Latin America for the identification of problems and development of solutions. This methodology is applicable at all levels of the health system, and approximately 40 teams have been trained at the district level in Niger in the quality improvement methodology. This research project encouraged the use of the data gathered as an input into the quality improvement cycles of these district quality improvement teams.

Appendix 2

Exit interview data collection form

Client Satisfaction Operations Research Study: Structured Guide for Exit Interviews

Health District ______________________________

Facility ______________________________

Village ______________________________

Interviewer ______________________________

Client (first name) ____________________ Sex: ______ Age (approx.) ______

Date of interview ____________________ Time interview began ______

Time interview ended ______ Duration of interview ____________________

Introduction

- Prior to the interview, please review the guide for qualitative research, particularly the notes concerning exit interviews.
- Before beginning questioning, greet the client and thank him/her for participating in the study.
- After introducing the research team, briefly explain the research objectives.
- Advise clients that their comments will remain anonymous. Advise the client that he/she may stop the interview at any time if he/she prefers not to answer certain questions.
- During the interview, follow the question guide closely and listen attentively to the client.
- Be careful to state questions in the same way for each client (as presented on the form). Only ask questions on the questionnaire and use follow-up questions if necessary:
    - ✓ *Could you explain more?*
    - ✓ *I did not understand well. Could you repeat your answer please?*
    - ✓ *I am not in a hurry. Take your time to think about it.*
- **Take a few minutes after each interview to review your notes.**

1. What was the reason for your visit to the health center today?

❒ Childhood illness
❒ Childhood illness – fever
❒ Childhood illness – diarrhea
❒ Childhood illness – ear infection
❒ Childhood illness – respiratory, w/cough
❒ Adult illness
❒ Adult illness with fever
❒ Adult illness with diarrhea
❒ Adult abdominal pain
❒ Well baby/weight consultation
❒ Prenatal consultation
❒ Other *(describe below)*

Comments:

2. What happened during your visit? (Here the client may describe many things—welcome, services, behavior of health workers, etc.)

What did you see during your visit? *(Write all comments below)*

Comments:

3. In your view, were you satisfied with the visit today?

☐ Very satisfied
☐ Satisfied
☐ Satisfied, but with room for improvement
☐ Not satisfied
☐ Not at all satisfied

Comments:

4. In your experience, what are the positive aspects of this health center?

☐ Competence of the health workers (appreciation of the work of the nurses)
☐ Reception
☐ Satisfaction with the treatment provided
☐ Medicines prescribed are effective
☐ Clinic is clean
☐ Clinic is open during entire scheduled hours
☐ Medicines are available
☐ One is treated even if you can’t pay
☐ Other *(describe below)*

Comments:

5. Even when a health center functions well, with health workers and medicines available, there may nevertheless be some problems. In your experience, what are the negative aspects of this health center?

☐ Lack of female health workers, for example for deliveries
☐ Lack of a waiting room
☐ The prescriptions are expensive
☐ Emergency referral (high cost of transportation)
☐ Long waiting times
☐ Women coming from a long way without getting an appointment
☐ Lack of supplies
☐ Other *(describe below)*

Comments:

6. Frequently, one is sick and can't visit a health center. When you are sick and do not use the services of this clinic, where do you seek care? Why?

Comments:

7. What suggestions can you make to improve this health center?

☐ I would change something *(describe what below in comments)*
☐ I wouldn't change anything

Comments:

8. In sum, do you think this clinic is fine as it is? Do you think it needs to be improved? Or do you not have any opinion?

☐ Fine as it is
☐ Needs to be improved
☐ No opinion

Comments:

Appendix 3

Focus group data collection form

Client Satisfaction Operations Research Study: Structured Guide for Focus Groups

Health District ____________________

Health Center ____________________

Village ____________________

Sex of participants ________ Date of focus group ____________________

Moderator ____________________ Recorder ____________________

Start time __________ End time __________ Duration __________

Participants	Age (approx.)
1. ____________________	__________
2. ____________________	__________
3. ____________________	__________
4. ____________________	__________
5. ____________________	__________
6. ____________________	__________
7. ____________________	__________
8. ____________________	__________
9. ____________________	__________
10. ____________________	__________

Structured Guide for Focus Groups

Introduction

- Prior to the group discussion, please review the guide for qualitative research, particularly No. 4.
- Before beginning the discussion, greet the clients and thank them for their participation.
- Introduce the research team, and briefly explain the research objectives.
- Advise clients that their comments will remain confidential. Advise the group that they are not obliged to answer all the questions, if a question makes them feel uncomfortable.
- During the focus group, try to note the participant's number with next to his/her comments.
- **Take a few minutes after the focus group discussion to review the notes for each question**. This should be done by both members of the team (moderator and recorder).

---

1. Please tell me when you last visited the health center.

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Less than a week?											
1 week - 1 month?											
1 month – 3 months?											
3 months - 6 months?											
Other *(specify)*											
Moderator: note each participant that spoke >											

Part. No. **Comments:**

2. What was the reason for your visit to the health center?

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Childhood illness											
Childhood illness – fever											
Childhood illness – diarrhea											
Childhood illness – ear infection											
Childhood illness – respir. w/cough											
Adult illness											
Adult illness with fever											
Adult illness with diarrhea											
Adult abdominal pain											
Well baby/weight consultation											
Prenatal consultation											
Other *(describe below)*											
Moderator: note each participant that spoke ➢											

Part. No. **Comments:**

3. What happened during your visit? *(Here, the client may describe many things—the welcome, the services, behavior of the health workers, etc.)*
What did you see during your visit? *(Write all comments below***)**

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Moderator: note each participant that spoke ➢											

Part. No. Comments:

4. Were you satisfied with your visit?

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Very satisfied											
Satisfied											
Satisfied, but with room for improvement											
Not satisfied											
Not at all satisfied											
Moderator: note each participant that spoke ➢											

Part. No. Comments:

5. In your experience, what are the positive aspects of this health center?

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Competence of the health workers (appreciation of the work of the nurses)											
Reception											
Satisfaction with the treatment provided											
Medicines prescribed are effective											
Clinic is clean											
Personnel work during entire scheduled hours											
Medicines are available											
One is treated even if you can’t pay											
Other *(describe below)*											
Moderator: note each participant that spoke ➢											

Part. No. **Comments:**

6. Even when a health center functions well, with health workers and medicines available, there may nevertheless be some problems. Now, in your experience, what are the negative aspects of this health center?

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Lack of female health workers, for example for deliveries											
Lack of a waiting room											
The prescriptions are expensive											
Emergency referral (high cost of transportation)											
Long waiting times											
Women coming from a long way without getting an appointment											
Lack of supplies											
Other *(describe below)*											
Moderator: note each participant that spoke ⋗											

Part. No. **Comments:**

7. Frequently, one is sick and can’t visit a health center. When you are sick and do not use the services of this clinic, where do you seek care? Why?

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Moderator: note each participant that spoke ➢											

Part. No. Comments:

8. What suggestions can you make to improve this health center?

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
I would change something *(describe what below in comments)*											
I wouldn’t change anything.											
Moderator: note each participant that spoke ➢											

Part. No. Comments:

9. In summary:

	Participant										
	1	2	3	4	5	6	7	8	9	10	Total
Do you think that this clinic is fine as it is?											
Do you think it needs to be improved?											
Do you not have any opinion?											
Moderator: note each participant that spoke ➤											

Part. No.   Comments:

Appendix 4

Utility questionnaire

The following semi-structured questionnaire was administered to the district health management teams approximately 3 months following the data collection and feedback.

1. Did you find the results of our research project useable for your work as a person responsible for the management of the health system in your district? Why or why not?

2. How have you used the results of the research for supervision?
   How have your teams at the health center level used the results of the research?

3. Do you think that this process of measuring the needs and expectations of your clients could be made part of your regular work? Have you planned to integrate such measurement in your regular processes of monitoring?

4. How could you improve the structure of a research effort such as this, including the data collection, the feedback, etc.? Do you have other suggestions in general in relation to the research?

Time costs analysis of variance

As cited before, it may be difficult to interpret the figures for the time costs for the different data collection methods. However, an analysis of variance on these time costs shows that the differences were significant for exit interviews, although not for focus groups (due perhaps, in part, to the smaller sample size).

As mentioned in the main body of this report, focus groups can be seen as more time “efficient” than exit interviews solely in terms of allowing data collection teams to gather data from the greatest number of clients in a fixed period of time. However, this time advantage may be outweighed when using simple data analysis techniques, by the amount and type of information gathered with focus groups. Similarly, while the table below illustrates the statistically significant difference between the different data collector types in terms of the average time per collector per client, the practical significance of a difference of six minutes per client may vary depending upon local conditions and the “opportunity cost” of those six minutes per client. This information is provided so that district health managers may consider these differences in time costs when evaluating the different methods of collecting client satisfaction data (data collector types).

Table 10

Time Analysis for Exit Interviews by District

Anova: Single Factor

Summary

Groups	Count	Sum	Average	Variance
Keita - Outside enum	96	1566	16.3125	32.80658
Konni - Same health	102	2092	20.5098	57.55931
Madaoua - Neighbor health	100	1477	14.77	18.48192

Anova

Source of variation	SS	df	MS	F	P-value	F crit
Between groups	1783.198	2	891.5991	24.4448	1.5E-10	3.026358
Within groups	10759.83	295	36.47398			
Total	12543.02	297				